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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
|-----------------|-------------|----------------------|---------------------|------------------|
| 10/620,354      | 07/17/2003  | Isamu Ohshita        | 107156-00193        | 8911             |

7590 11/05/2009  
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| EXAMINER         |  |
| PERRY, ANTHONY T |  |

|          |              |
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| ART UNIT | PAPER NUMBER |
| 2879     |              |

|            |               |
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| MAIL DATE  | DELIVERY MODE |
| 11/05/2009 | PAPER         |

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

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2  
3 RECORD OF ORAL HEARING  
4 UNITED STATES PATENT AND TRADEMARK OFFICE  
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6  
7 BEFORE THE BOARD OF PATENT APPEALS  
8 AND INTERFERENCES  
9

10 *Ex Parte* ISAMU OHSHITA, TERUICHI WATANABE, GEN SUZUKI,  
11 KUNIZO OGOSHI, and TERUO TOHMA  
12

13  
14 Appeal 2009-004244  
15 Application 10/620,354  
16 Technology Center 2800  
17

18  
19 Oral Hearing Held: September 15, 2009  
20

21  
22 Before JOSEPH F. RUGGIERO, CARLA M. KRIVAK, and BRADLEY W.  
23 BAUMEISTER, *Administrative Patent Judges*.  
24

25 ON BEHALF OF THE APPELLANTS:  
26

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32

33 The above-entitled matter came on for hearing Tuesday, September  
34 15, 2009, commencing at 1:00 p.m., at the U.S. Patent and Trademark  
35 Office, 600 Dulany Street, Alexandria, Virginia, before Samuel Weston,  
36 Notary Public.

1 THE USHER: Calendar No. 47, Appeal Number 2009-004244, Ms.  
2 Rowe.

3 JUDGE RUGGIERO: Counselor --

4 MS. ROWE: Good afternoon.

5 JUDGE RUGGIERO: -- do you have a business card or --

6 MS. ROWE: I do.

7 JUDGE RUGGIERO: -- do you want to spell your name at least for  
8 the --

9 MS. ROWE: Yes. Your Honor said -- spell my name?

10 JUDGE RUGGIERO: Yeah, you can just spell it out.

11 MS. ROWE: It's S-h-e-r-e-e, and my last name is Rowe, R-o-w-e.

12 JUDGE RUGGIERO: Thank you. Okay, go ahead.

13 MS. ROWE: Thank you.

14 An issue critical to the patentability of the organic electroluminescent  
15 display device in independent Claim 16 includes the fact that each of the  
16 pixels is formed of two light-emitting elements producing two different  
17 colors. And the light-emitting element is formed including a pair of  
18 electrodes, one of which comprises the plurality of independent array  
19 patterns corresponding to the light-emitting elements such that -- yes?

20 JUDGE KRIVAK: Before you go further, can you explain where that  
21 is and what it is?

22 MS. ROWE: Absolutely.

23 JUDGE KRIVAK: The claim term, at least one electrode of the pair  
24 of electrodes comprises a plurality of independent array patterns?

25 MS. ROWE: Yes. That is -- that's in the second clause. It begins  
26 with wherein, each light-emitting element --

1 JUDGE KRIVAK: Yes. Yes, where is that in -- where is there  
2 support?

3 MS. ROWE: Oh, in the specification. Absolutely.

4 JUDGE KRIVAK: Because, yeah, I kind of -- yeah, that would be  
5 great.

6 MS. ROWE: Is it best for me to cite to the published application or to  
7 the original filed Application?

8 JUDGE KRIVAK: To the original filed.

9 MS. ROWE: Okay. On page 17, line 10 through 11, it describes that  
10 the first display electrode, which is element 14, shown in Figures 4 and 5, is  
11 an independent array pattern each corresponding to the light-emitting  
12 elements, R and B.

13 JUDGE BAUMEISTER: Okay. Hold on a second while I --

14 JUDGE KRIVAK: What line was that? Page 17, line?

15 MS. ROWE: Lines 10 and 11.

16 JUDGE KRIVAK: Lines 10 and 11. And that's seen in Figures 4 and  
17 5.

18 MS. ROWE: And if you look to Figures 4 and 5, it shows that the  
19 element 14 in Figure 5, you can see that, you know, there's an independent  
20 electrode for the red pixel here and for the blue pixel. And then as well,  
21 Figure 4 shows that it's not just, you know, the standard column electrode,  
22 but they're independent electrode elements in this array pattern. And they  
23 show the R and the B being corresponding to the different light-emitting  
24 elements within the pixel, which the pixel is shown with the dotted lines.

25 JUDGE KRIVAK: Okay. Is that just from a typo in your claim  
26 language then? Your claim language doesn't necessarily say. It says the

1 first electrode of independent array pattern, each corresponding to the light-  
2 emitting element. The claim says at least one electrode comprises a plurality  
3 of independent array patterns corresponding to the light-emitting elements.

4 MS. ROWE: I'm sorry, I didn't understand your question. Sorry.

5 JUDGE BAUMEISTER: I guess the question is, the claim says one  
6 electrode comprises --

7 MS. ROWE: Oh, one of the pair of electrodes. You have two  
8 different driving electrodes. There's the anode and the cathode. So if you  
9 look at Figure 5 again, it shows element 14 is only one of the pair of  
10 electrodes. I believe it's element 16 is the other. So it's correctly described  
11 where element 16 is a completely separate electrode in that it's just element  
12 14 being one of the pair of electrodes that includes this array pattern.

13 JUDGE BAUMEISTER: We understand that they're going to be  
14 arrayed separately. And, typically, they're going to be in some sort of like  
15 overlapping horizontal-vertical grid. But the language itself says that one  
16 electrode -- of this pair of electrodes, one electrode comprises a plurality of  
17 independent array patterns.

18 MS. ROWE: Yes.

19 JUDGE BAUMEISTER: What is the array patterns, plural patterns,  
20 that the one electrode comprises?

21 MS. ROWE: Element 14 is one of the pair of electrodes and it --  
22 Figure 4 shows that element 14 includes these different array of elements --  
23 or of electrode patterns. It's a pattern, an array pattern, including each of  
24 these distinct electrode sections of the first of the pair of electrodes. So 14  
25 where it shows, I guess there are eight displayed here, those are eight of the  
26 independent array patterns corresponding to that one electrode, element 14.

1 Electrode 16 would be on a different layer above electrode 14. It's not  
2 shown here in Figure 14. So Figure 5 shows a different cross-section where  
3 you see the -- there's electrode 14 below, which would be the array pattern.  
4 They show two of the different electrode elements that would be in that  
5 array pattern, and then electrode 16 overlies the -- between the electrode 14  
6 and 16 there's the electroluminescent layer. So 14 and 16 would be the  
7 electrode pair, and the different sections of electrode 14 are arrayed in an  
8 independent array pattern.

9 JUDGE KRIVAK: The electrodes are arrayed in the independent  
10 array pattern?

11 MS. ROWE: The one electrode --

12 JUDGE KRIVAK: The one electrode.

13 MS. ROWE: -- of the electrode pair.

14 JUDGE KRIVAK: Electrode 16 is a common electrode to  
15 everything?

16 MS. ROWE: Yes.

17 JUDGE KRIVAK: Yeah, it's not separated --

18 MS. ROWE: Well, not to everything, but --

19 JUDGE KRIVAK: Right, right.

20 MS. ROWE: -- it's common to more than one of the light-emitting  
21 elements.

22 JUDGE KRIVAK: Okay. So each of the 14 shown in Figure 4 -- let  
23 me just see if I can -- it says, first display electrodes of independent -- each  
24 corresponding -- so it shows 14 -- oh, you have R and B both belong to  
25 electrode 14? That's one array pattern for electrode 14?

1 MS. ROWE: Well, they're two different sections of electrode that  
2 form that -- the independent array pattern. R corresponds to one light-  
3 emitting element within the pixel and B corresponds to, you know, a  
4 different, blue here, light-emitting element within the pixel.

5 JUDGE KRIVAK: Within the pixel?

6 MS. ROWE: Yeah. And the light-emitting element is being formed  
7 by the combination of the two pair of electrodes and the electroluminescent  
8 material between.

9 JUDGE BAUMEISTER: So I see, like in Figure 4, you have line 13.  
10 That's interconnected -- I guess, okay. Cathode, anode, lower electrode.  
11 Okay, lower electrode 14. So 13 interconnects, the lower electrodes 13, is  
12 that right?

13 MS. ROWE: Yes. I believe that the individual wiring --

14 JUDGE KRIVAK: I mean, that signal's on.

15 JUDGE BAUMEISTER: Yeah. I mean, that schematic. I mean, in  
16 reality, what's going on? You have a transparent substrate and you have a  
17 transparent lower electrode. Is that just going to go on in one strip or, I  
18 mean, if they're patterned --

19 MS. ROWE: No, the pattern is actually very important. The pattern  
20 is required in order for to be able to control the gradation of the individual  
21 light-emitting elements within a single pixel. The very bottom of the claim  
22 describes that the two different light-emitting elements are driven by  
23 different electric currents or voltages. So the two light-emitting elements  
24 within a single pixel are driven with two different electric currents and --

25 JUDGE BAUMEISTER: Yeah, I understand that. And then that way  
26 you have one common one and then whether you turn on or off the red or the

1 blue, however much you turn them on, you can change the luminescence and  
2 you can shift, blue shift or red shift. I get that. But like within the -- from  
3 one pixel to the next, is it really -- I guess I'm trying to figure out where are  
4 all these wires going to the -- because it looks like you have wire 13  
5 extending from the upper-left pixel through the lower-left pixel. And, am I  
6 right, you're turning on a whole line at a time and then just depending on  
7 whether you're biasing both the anode and the cathode that you're going to --  
8 closing the circuit on the anode or cathode is going to dictate which one you  
9 turn on?

10 MS. ROWE: No. As I understand it, it's not just turning on or off an  
11 entire line. It's turning on and off to a particular degree a specific light-  
12 emitting element within a pixel. So each of the pixels is not only driven  
13 separately, but the two different light-emitting elements within a single pixel  
14 are driven separately. And that's one of the key differences.

15 Here, the Office Action, the Final Office Action and the Examiner's  
16 Amendment admit that neither Ogura or Kobayashi disclose this driving the  
17 two light-emitting elements by different currents or voltages and they cite to  
18 Mathis as disclosing this. However, Mathis teaches a voltage compensation  
19 system that is designed to compensate for a decay in the pixel due to age.  
20 They calculate what additional voltage would need to be supplied to that  
21 pixel corresponding to the age of the pixel to maintain a constant brightness.  
22 That's to a pixel as a whole. There's no discussion of individually driving  
23 two different light-emitting elements within a pixel, according to a different  
24 driving current or voltage. And, again, this depends upon the structure  
25 described, where one of the electrode pairs comprises this plurality of  
26 independent array patterns so that each of the different light-emitting



1 elements within a single pixel can be driven with a different current or  
2 voltage.

3 And this array pattern is another feature that's not disclosed in the  
4 cited art. Right now Ogura is cited as disclosing this feature. Originally, in  
5 the Final Office Action, it was stated that paragraph 166 described this  
6 feature. However, paragraph 166 just describes a standard column electrode.

7 In the Examiner's Answer they then cited to paragraphs 9 and 56.  
8 Paragraph 9, again, describes the common stripe electrode --

9 JUDGE KRIVAK: You're talking about Ogura? 166?

10 MS. ROWE: Yes.

11 JUDGE KRIVAK: Don't go so fast.

12 MS. ROWE: Oh, I'm sorry. I'm sorry. Well, so paragraph --

13 JUDGE KRIVAK: So Ogura 166. Okay.

14 MS. ROWE: Yeah, Ogura 166 and paragraph 9 of Ogura both  
15 describe, you know, the common electrode as a stripe shaped.

16 JUDGE KRIVAK: Yes.

17 MS. ROWE: So it's the common stripe-shaped electrode instead of  
18 this independent array pattern. And the paragraph 56 describes the -- let me  
19 look directly at paragraph 56. It describes the, I believe, the -- they describe  
20 it as active matrix EL panels. And, again, matrix design is commonly used  
21 to describe, you know, the two different sets of stripe electrode patterns and  
22 then when they overlay each other with opposing patterns, this creates a  
23 matrix design. But neither of these sections discloses the plurality of  
24 independent array patterns for one of the pair of electrodes, which again is  
25 key to being able to individually drive each of the light-emitting elements  
26 within a single pixel at a different driving voltage or current.

1 JUDGE BAUMEISTER: Okay. So would you agree or admit that  
2 Ogura, if not expressly, at least implicitly, is directed towards a full-color  
3 LED display?

4 MS. ROWE: Ogura when it describes that three of the colors can be  
5 used, the three pixels, red, green and blue, that is a full-color display. It's  
6 your standard full-color display. Ogura then notes that, you know, it's not  
7 always necessary to use three colors; you can use one color, which would  
8 just be your standard monochromatic display, or that you can use two colors.  
9 But there, using the design in Ogura, you're going to sacrifice image quality  
10 for a reduction in the luminescent material type.

11 A picture was submitted, originally, with the response to the Office  
12 Action of October 10th, 2006, and again as Appendix 9 with the Appeal  
13 Brief, and it shows -- it was a color picture that showed the difference  
14 between the current -- the electroluminescent display as described in  
15 Independent Claim 16, where, you know, different driving voltages are  
16 applied to the different light-emitting elements controlling the gradation of  
17 them, and your standard two-color display as in Ogura. I have copies of that  
18 in color, in case you were given black and white copies.

19 JUDGE KRIVAK: Oh, yes. Yes, you can't see anything in the black  
20 and white. It's literally black and white.

21 MS. ROWE: It totally defeats the purposes of showing it --

22 JUDGE KRIVAK: Thank you.

23 MS. ROWE: -- in two different colors. So you can see in the bottom  
24 picture, there's a sacrifice in the image quality by reducing the -- one of the  
25 colors of the electroluminescent material.

1 JUDGE BAUMEISTER: Okay. So you're saying for a full-color  
2 display, whether you're using three electrodes or two electrodes, that they  
3 get that by just turning it on or off, yes or no. It's not a matter of varying the  
4 voltage for any --

5 JUDGE KRIVAK: Each separate --

6 JUDGE BAUMEISTER: Each single pixel of a -- or each single color  
7 of a pixel?

8 JUDGE KRIVAK: Each LED in the pixel.

9 MS. ROWE: Yes. As I understand, they -- by using the three  
10 different colors and turning those on or off, then you achieve your full-color  
11 display. When you remove one of those colors, you degrade the image  
12 quality.

13 JUDGE BAUMEISTER: But -- yeah, okay. But it also says that you  
14 can -- in addition to being three color or two color, it can be gray. And my  
15 understanding of a gray scale is just that, you're adjusting the luminescence  
16 of a LED.

17 MS. ROWE: I believe the gray scale would be achieved using a  
18 monochromatic color.

19 JUDGE BAUMEISTER: Yeah.

20 MS. ROWE: You'd use -- you know, the presence or absence of a  
21 color based on whether or not an individual pixel is turned on or off, not  
22 according to the actual voltage applied to that pixel.

23 JUDGE BAUMEISTER: Well, okay. I mean, if you assume that all  
24 the way on is white and all the way off is black, then partial luminescence  
25 would be a shade of gray.

1 MS. ROWE: Which I -- as I understand, the gray scale is achieved  
2 by, you know, individual pixels being turned either on or off --

3 JUDGE BAUMEISTER: I see.

4 MS. ROWE: -- and a combination creates the gray scale. Whereas  
5 here, they're not just creating an on or off, but they're controlling the  
6 gradation of the individual light-emitting elements. Figure 7 of the present  
7 application shows that -- shows a chromaticity diagram and shows that by --  
8 so they've selected two different colors. They're -- the black dots correspond  
9 to, you know, the individual color if it was turned on or off. And as  
10 described in the claim, the mixture of the two different colors produces  
11 colors flowing within a line segment between the two colors by controlling  
12 the gradation of the individual light-emitting elements. So by controlling the  
13 amount of drag and current or voltage that's supplied specifically to the  
14 individual light-emitting elements, they're going to change the gradation of  
15 the light-emitting element, and it allows them to use this entire line spectrum  
16 rather than just, you know, the one blue-green color or the one orange color  
17 and a middle color where they're combined.

18 JUDGE BAUMEISTER: Yeah, where does the spec define  
19 gradation? Because I think the Examiner's position is that by choosing your  
20 pigment dictates what color is emitted and therefore that is controlling the  
21 gradation. So I'm trying to find out is gradation limited to adjusting relevant  
22 luminescence or does gradation also include reading on the color as well as  
23 the brightness?

24 MS. ROWE: I'm glad that you brought that up. The Examiner has,  
25 you know, described that by selecting the individual colors that you are then  
26 controlling gradation. And we point out that selecting individual colors is

1 having these two different colors of a predetermined chromaticity value, and  
2 that describes that you're selecting particular colors. And then it's in -- on  
3 page 15, line 6 through 10, it describes that, you know, the high quality  
4 quasi-color images are provided even with the two-color structure by  
5 controlling the gradations of the two colors constituting a pixel. The  
6 gradations of light emitted from each of the two light-emitting elements is  
7 controlled by changing its drag or current or voltage. So you're specifically  
8 changing the gradations of emitted light by controlling -- by changing a drag  
9 or a current or voltage. It goes beyond just selecting the chromaticity of the  
10 electroluminescent materials that you'll be providing in the display.

11 I believe that my time is nearly up, but I'd just like to point out that  
12 none of the references teach each of the features residing in independent  
13 Claim 16 that Mathis and, as already admitted, Ogura and Kobayashi fail to  
14 disclose this two light-emitting elements within a single pixel being driven  
15 by a different voltage or current, which is what allows the control of  
16 gradation and the quasi-color display to be performed. And as well, none of  
17 the references disclose or suggest the independent array pattern for one of  
18 the pair of electrodes. So based on these elements that are missing from the  
19 cited art, we would request a withdrawal of the current rejection of  
20 Independent Claim 16.

21 JUDGE BAUMEISTER: I guess one other line of questions.

22 MS. ROWE: Okay.

23 JUDGE BAUMEISTER: Let's see, Figure 2 --

24 MS. ROWE: Figure 2.

25 JUDGE BAUMEISTER: -- of your disclosure shows the CIE  
26 coordinate of .31.316.

1 MS. ROWE: Yes.

2 JUDGE BAUMEISTER: And Claim 16 has a coordinate of .31.36.  
3 Which is right?

4 MS. ROWE: I believe that it's the .31.36, as described in the claim.  
5 And I think that corresponds to the actual term that's in the specification.

6 JUDGE KRIVAK: Well, actually the spec --

7 MS. ROWE: No, it does. You're right. The specification says .316.  
8 And that's something that I would have to follow up with that.

9 JUDGE BAUMEISTER: Okay. That's something that ought to be  
10 clarified.

11 MS. ROWE: Okay. Thank you.

12 JUDGE RUGGIERO: Any other questions?

13 JUDGE KRIVAK: I do not. Do you?

14 JUDGE BAUMEISTER: I think --

15 MS. ROWE: Thank you very much.

16 JUDGE KRIVAK: Thank you very much.

17 (Whereupon, the proceeding concluded.)